

No.1883B

D T C 1 . 2 . - N

Silicon Planar Type

12A Bidirectional Thyristor

Features

- Peak OFF-state voltage : 200 to 600V
- RMS ON-state current : 12A
- TO-220 package

Absolute Maximum Ratings at Ta = 25°C

			DTC 12C-N	DTC 12E-N	DTC 12G-N	unit
Repetitive Peak OFF-State Voltage	V _{DRM}	T _c =98°C,	200	400	600	V
RMS ON-State Current	I _{T(RMS)}	single-phase full-wave	→	→	12	A
Surge ON-State Current	I _{TSM}	Peak 1 cycle, 50Hz	→	→	120	A
Amperes Squared-Seconds	f ² T·dt	1ms ≤ t ≤ 10ms	→	→	72	A ² s
Peak Gate Power Dissipation	P _{GM}	f ≥ 50Hz, duty ≤ 10%	→	→	5	W
Average Gate Power Dissipation	P _{G(AV)}		→	→	0.5	W
Peak Gate Current	I _{GM}	f ≥ 50Hz, duty ≤ 10%	→	→	±2	A
Peak Gate Voltage	V _{GM}	f ≥ 50Hz, duty ≤ 10%	→	→	±10	V
Junction Temperature	T _j		→	→	125	°C
Storage Temperature	T _{stg}		→	-40 to +125		°C
Weight			→	→	1.8	g

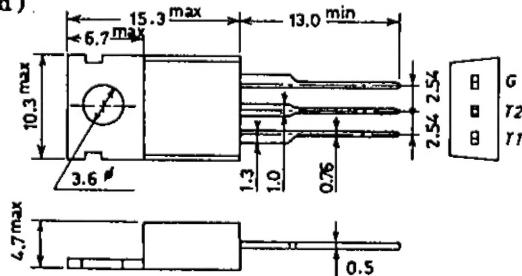
Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Repetitive Peak OFF-State Current	I _{DRM}	T _j =125°C, V _D =V _{DRM}			2	mA
Peak ON-State Voltage	V _{TM}	I _{TM} =17A			1.5	V
Critical Rate of Rise of OFF-State Voltage	(dv/dt)C	T _j =125°C, V _D =200V(C), 400V(E to G)	10			V/μs
Holding Current	I _H	R _L =100Ω			50	mA
Gate Trigger Current (I)	I _{GT}	V _D =12V, R _L =20Ω			30	mA
(II)	I _{GT}	V _D =12V, R _L =20Ω			30	mA
(III)	I _{GT}	V _D =12V, R _L =20Ω			50	mA
(IV)	I _{GT}	V _D =12V, R _L =20Ω			30	mA
Gate Trigger Voltage (I)	V _{GT}	V _D =12V, R _L =20Ω			2	V
(II)	V _{GT}	V _D =12V, R _L =20Ω			2	V
(III)	V _{GT}	V _D =12V, R _L =20Ω			2	V
(IV)	V _{GT}	V _D =12V, R _L =20Ω			2	V
Gate Nontrigger Voltage	V _{GD}	T _c =125°C, V _D =V _{DRM}	0.2			V
Thermal Resistance	R _{th(j-c)}	Between junction and case, AC			1.8	°C/W

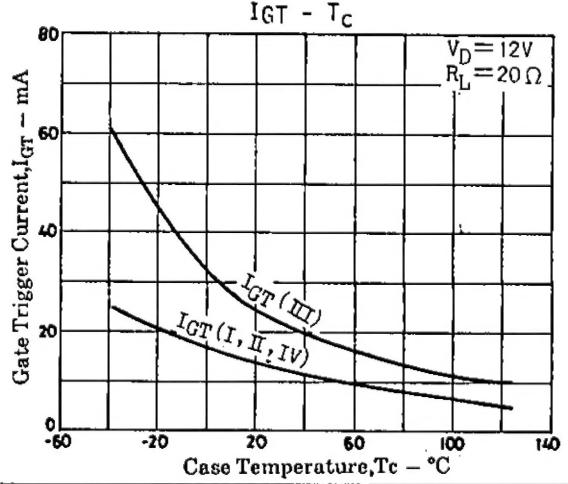
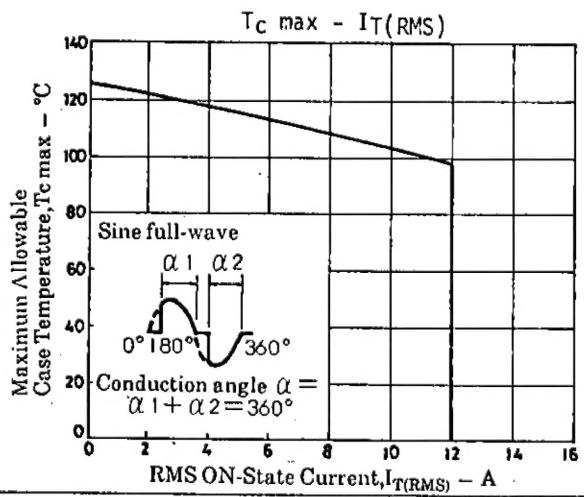
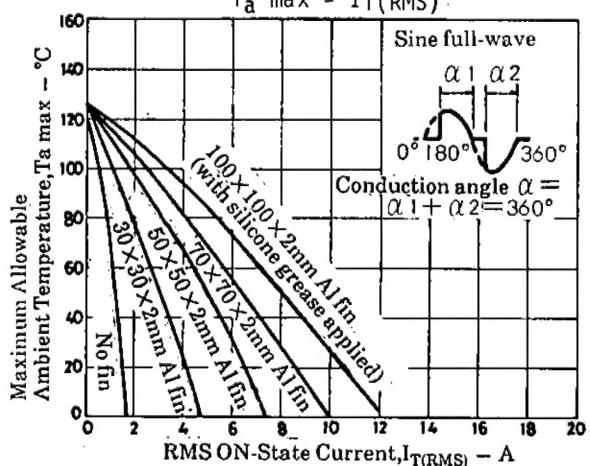
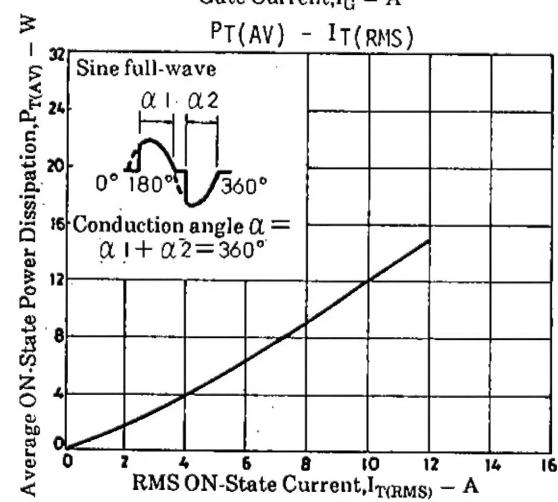
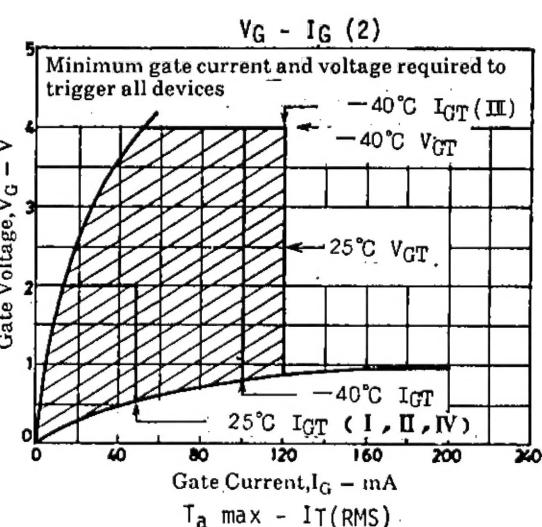
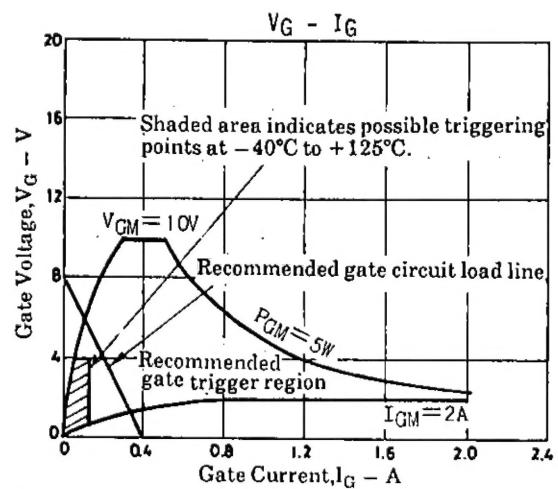
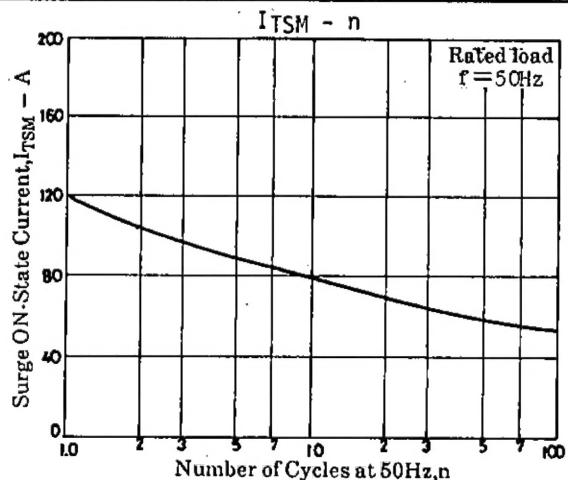
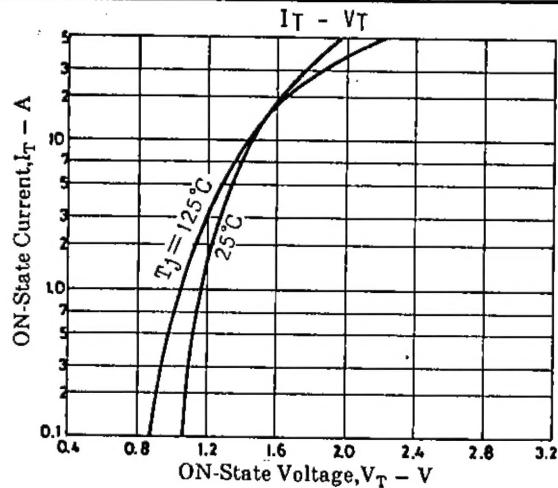
* : The gate trigger mode is shown below.

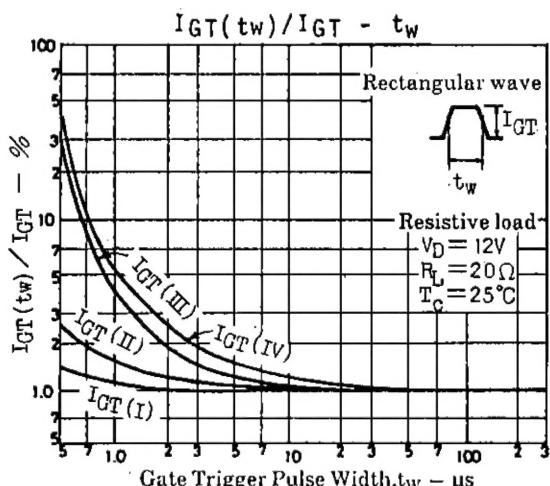
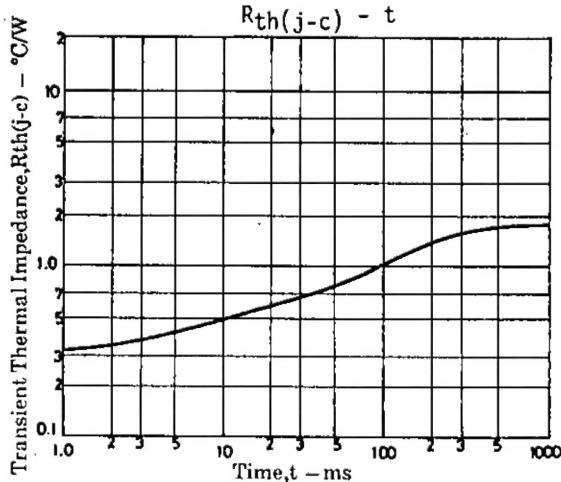
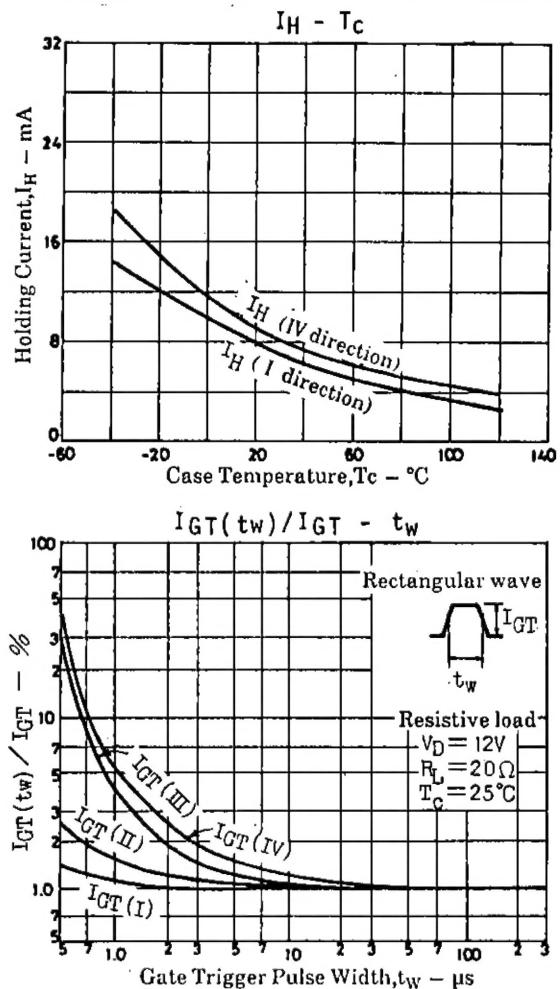
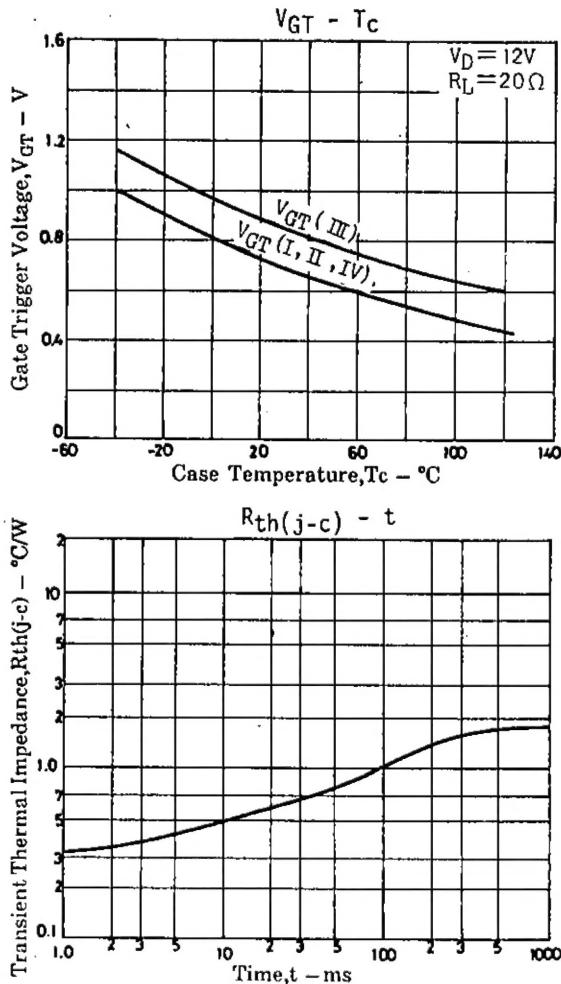
Trigger mode	T2	T1	G
I	+	-	+
II	+	-	-
III	-	+	+
IV	-	+	-

Package Dimensions 1155
(unit: mm)



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